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Scribner will receive such encouragement as will enable him to carry to a successful conclusion a work of so much importance. —Dr. N. L. Britton has compiled for the Geological Survey a "Preliminary Catalogue of the Flora of New Jersey." It is printed on alternate pages, the blank pages being intended for notes, additions and corrections. J. B. Ellis furnished the list of Fungi, A. B. Hervey the marine Algæ, and Francis Wolle, the fresh-water Algæ, and T. F. Allen the Characeæ. The notes are valuable, and in many cases are quite full. Copies (to be returned in 1882) may be obtained by addressing the State geologist, Professor Geo. H. Cook, New Brunswick, N. J.

ZOÖLOGY.

THE RESEMBLANCES AND DIFERENCES OF THE TWO SEXES, by M. G. Delaunay.—This is the title of a paper published in the *Revue Scientifique* for September 3, 1881. It has special interest as presenting the most complete review of the differential characters of the sexes of the human species which has appeared. The author's conclusions are curious and instructive. We give a necessarily much abbreviated synopsis.

The author commences by showing that the female is much the larger and more powerful in most of the lower animals. He cites the Cephalopoda, certain cirripeds, most annelids, most insects—as Hymenoptera and Lepidoptera. Among vertebrates the female is the larger among many fishes and reptiles. Among the higher *Vertebrata*, the relations are reversed. In birds, except in a few birds of prey, the male is the larger, and this is universally the case among *Mammalia*. This superiority of the male sex consists in the following points: In the male the phenomena of nutrition are the more intense. The blood is denser and redder, and contains more red corpuscles and hæmoglobine, and fewer white corpuscles and less water. Malassez has proven that man has a million more red corpuscles in a cubic millimeter of blood than woman. Man eats more than woman. The public charities know that it costs more to feed a boy than a girl. Nevertheless though she eats less, woman eats more frequently. In the asylums the women take food from the table, thus doubling the number of their meals.

Respiration is more intense in man than in woman. In a man and woman of equal size, the man has a demilitre more pulmonary capacity.

Man absorbs more oxygen, though he breathes less frequently. According to Quetelet, between the ages of fifteen and fifty, woman has one inspiration per minute more than man. At all ages man excretes more carbonic acid than woman. The temperature of man is more elevated than that of woman. In the circulation, the blood-pressure is stronger in man than in woman, but the pulse is less frequent. The differences in several animals are as

follows: in the lion 18 pulsations per minute; the ox, 10; the sheep, 12; and 10-14 in man. The anatomical preëminence of the male is especially in the functions of animal life.

The skeleton of woman is lighter in proportion to her total weight than that of man. It has been discovered that the male skeleton contains more inorganic matter than that of woman, and more carbonate of lime and less phosphate of lime. The woman uses the right side less than the man. According to Livon the left shoulder blade is larger than the right in woman, as in the inferior races. Broca found that the length of the clavicle as compared with the humerus is greater in woman than in man, as it is greater in the negro than in the white race. Man as is well known, is larger than woman, and also more heavily built, although the adipose coat of woman frequently gives an opposite impression to the observer. Among the Indo-European nations, woman is more prognathous than man.

The difference between the voices of man and women are perceptible among many of the higher animals. The inferiority in muscular energy on the part of women amounts to one-third the force exerted by the male. Muscular movements are more precise in man; this is seen in pianists, the best of whom are men.

The skull is more voluminous in the male. Wiesbach found its cubic contents in German women and men to be as 878 to 1000. Morselli compares the capacities as 85 to 100. According to Broca the difference in favor of man is 150 centimeters for the French and 211 for the Parisians. In woman the skull is generally more elongate and less elevated.

The brain of man is heavier than that of woman, not only absolutely but relatively. The size of woman to that of man being as 927 to 1000, the weight of her brain is to that of man as 909 to 1000. When of equal size, the brain of woman is much less heavy than that of man. The mean weight of seventeen male brains exceed that of as many brains of females of the same size, by 172 grammes. There are also differences of conformation. According to all anthropologists (Broca, Wagner, Huschke), the frontal lobes are less developed in woman. Huschke found fifty-four cubic centimeters difference in favor of man. On the other hand, the occipital lobes are more voluminous in woman than in man. According to Wagner, the female brain is always in a more or less embryonic condition. Some anatomists think that the right brain is more developed in woman and the left in man. This will explain why, in passing, man generally chooses the right hand, and woman the left.

After a discussion of the metaphysical qualities of the sexes, the author presents a view of their peculiarities in different races. His conclusions are as follows:

"The preëminence of the female sex, only seen in certain infe-

rior races of men, and in the infants of the higher races, marks an inferior stage of evolution.

"It is the same with the equality of the sexes, which is only seen in little developed individuals, as inferior races and species, young persons, the aged, and in inferior classes of society.

"On the contrary, the preëminence of the male over the female represents a superior phase of evolution, since it characterizes superior species and races, adult age and the superior classes of society.

"From the moral as from the physical side, evolution appears to have progressed from a state of superiority of the female to that of the male sex; and the stage of equality represents an intermediate stage."

ON THE MORPHOLOGY OF THE CORBULA OF CERTAIN PLUMULARIDÆ.—The specialized portion of the stem of the Plumularidæ which bears the sexual organs and which, from its likeness to a basket, is known as the corbula, has been compared by the greatest authority on the hydroids, Professor Allman, to a metamorphosed pinna, while the ribs of the same have been likened to the changed mesial nematophores of the pinna. Although this comparison has much to recommend it in *Aglaophenia spinosa* All., and some others, it is certainly not the homology of the corbula in all genera, as I have shown in my report on the deep sea hydroids of the *Blake* (Bull. Mus. Comp. Zool., Vol. VIII, No. 7). The true morphology of the corbula in these new genera, and the facts which support it, may be stated briefly as follows:

In the new genus *Pleurocarpa*, collected off St. Vincent by Mr. Agassiz, we have a true corbula homologous with a hydroid branch, and not with a modified pinna. In it the so-called corbula ribs are modified pinnæ and not comparable with metamorphosed nematophores. Showing that such is the case, we find in this genus that the proximal end of a branch which bears the corbula assumes the normal form of a corbula, while the distal extremity retains the true character of a branch with pinnæ unchanged. This genus seems to me to indicate, without doubt, that the corbula is a modified branch, bearing as ribs metamorphosed pinnæ instead of being, as taught by Allman, the homologue of a pinna with developed nematophores forming corbula ribs.

When now we come to study another genus of Plumularidæ, in which the protection of the sexual organs also assumes the form of a corbulæ, we find verifications of the same morphology which has been shown to be true in *Pleurocarpa*. The distal ends of the branches in *Hippurella* are true corbulæ, while the proximal portions are normal branches and bear primæ regularly arranged, imparting to the whole an unquestionable likeness to a branch. Indeed, no one can for a moment question that here

these organs are metamorphosed branches, although some doubt may arise as to whether the distal ends are true corbulæ or not. If we compare *Hippurella* with *Callicarpa* Fewkes, all question as to the latter point is silenced, for in *Callicarpa* we have a structure which is undoubtedly a true corbula similar to that of *Hippurella*.

In *Callicarpa* we have a hydroid with simple stem, bearing pinnæ arranged regularly and alternately along its whole extent. On the main stem from which these pinnæ spring, there also arise corbulæ which closely resemble in shape spikes of wheat or barley. At that point on the main stem from which these arise there is no variation in the normal arrangement of the pinnæ, and no omission of a single pinna such as would be expected if the spikes were modified pinnæ. The corbulæ arise like any branch, and in their arrangement on the stem, no less than in their shape, bear every resemblance to metamorphosed branches.

The genus *Callicarpa* has still another interesting resemblance to *Hippurella* bearing on this homology. While the latter genus has the distal extremity of the branch modified into a corbula, and the proximal end remains normal with true pinnæ, *Callicarpa* has the whole branch changed in the same way, and it is destitute of those proximally placed pinnæ which characterize the corbula of *Hippurella*.

In conclusion, considering the corbula of the three genera, *Pleurocarpa*, *Callicarpa* and *Hippurella*, we are led to give to it a different homology from that which has been suggested for the same structure, as I believe, in some species of *Agalophenia*. The strongest evidence in support of my theory is found in *Pleurocarpa*, where the corbula is undoubtedly a modified branch. Are we to suppose that the corbula is not homologous in different genera, or that in one genus it is a modified pinna, while in another a metamorphosed branch?—*J. Walter Fewkes, Cambridge, September, 1881.*

MIGRATION OF BIRDS AT NIGHT.—The vexed questions regarding the migrations of birds and whether they fly by night and at great elevations have been elucidated by Mr. W. E. D. Scott, in the Bulletin of the Nuttall Ornithological Club for April. While, with some friends, looking through the 9½ inch equatorial at Princeton, N. J., at the moon, his attention was arrested by numbers of small birds, more or less plainly seen, passing across the field of observation. Most of the birds were the smaller land birds, among which were plainly recognized warblers, finches, woodpeckers, and blackbirds, the relative numbers being in the order of kinds given. Among the finches Mr. Scott identified *Chrysomitris tristis*, and the blackbird was the *Quiscalus purpureus*. With rare exceptions, the birds were seen to be flying from north-west to south-east. By observing the height of the moon

above the horizon in degrees and the two limits of the area of observation—that is, how near or how far the birds noted were from the glass—it was found, with the aid of Professor C. A. Young, that the birds flew at the great elevation of nearly 10,000 feet, and that the average number of birds passing through the field of observation per minute was four and a half. In commenting on these facts, Mr. J. A. Allen remarks that Mr. Scott's novel and important observations definitely establish several points in relation to the migration of birds that have heretofore rested almost wholly on conjecture and probability. "We have, first, the fact that the nearest birds seen through the telescope must have been at least one mile above the earth and may have ranged in elevation from one mile to four miles. It has been held that birds, when migrating, may fly at a sufficient height to be able to distinguish such prominent features of the landscape as coast-lines, the principal water-courses, and mountain-chains over a wide area. Of this, thanks to Mr. Scott, we now have proof. It, therefore, follows that during clear nights birds are not without guidance during their long migratory journeys, while the state of bewilderment they exhibit during dark nights and thick weather becomes explainable on the ground of their inability to discern their usual landmarks—points that have been assumed as probable, but heretofore not actually proven."

BRAVING THE "BLIZZARDS."—On the last day of March I visited the Iowa Agricultural College, at Ames, Story county. I walked over from the station and back, and while returning my path lay across a little knoll, from which the snow had disappeared, though it still covered half the country around. Near the top of this knoll a little bird flew up from the dry grass at my feet. Through a "survival" of the old habit of boyhood, of searching for the nest on the spot whence a bird rises in this way, I instinctively stopped and looked, and there, on the ground, was a neat little nest, in the bleached prairie grass, containing three small speckled eggs! Great patches of snow and ice lay in all the hollows near at hand, while a most terribly cold wind was blowing from the north! It was a dreary, bitter day, and March was really going out like a roaring lion! Really, it did not seem to me that the snow could have disappeared from the knoll more than three or four days before. Later still more snow fell, and to-day, as I write this item, I am "snow-bound" seventy miles west of my home! That little winter snow-bird (*Plectrophanes nivalis*, as I suppose) no doubt understands her business, but I should say she had set about rearing a family under circumstances of extreme difficulty! It would seem that the younglings must perish from the lack of insect food, if they escaped freezing to death—though in the adult state they live on the seeds of our prairie weeds. At all events I never found a bird's nest during a March "blizzard" before.—*Charles Aldrich, Webster City, Iowa, April 12, 1881.*

SNAKES CLIMBING TREES.—It seems to be in order, just now, for any person who has ever seen a snake “up a tree,” to narrate the happening in some of the natural history papers. In 1863, while our regiment was stationed at Columbus, Ky., several of us made an excursion to the battle-field of Belmont, just over the river. While riding along through the woods, I heard a slight rustling just over my head. I was under a pawpaw tree, and looking up I was not a little surprised to see a small grass-green snake resting confidently upon the twigs and leaves not a foot from my face! The reptile was up seven or eight feet above the ground; but how it got there I had no means of knowing. Of course it “climbed” by some means. This tree was about six inches in diameter, and the bark was quite smooth. The timber, however, was very thick at this place, and the snake may have ascended some other tree better adapted to the purpose of a roadway. These little snakes were quite plenty in that portion of Dixie, and are often found in this vicinity. They are eighteen to twenty or twenty-four inches in length, grass-green on the back, and greenish-white on the under side. I do not know any name for them, either popular or scientific, but I suppose any herpetologist would readily identify them from the above description.—*Charles Aldrich, Webster City, Iowa, May, 1881.*

THE BLUE JAYS.—These birds remain with us all the year round, notwithstanding the temperature of *minus* twenty-nine or thirty degrees which we sometimes have in our long “blizzard” winters. Supposing from their continued presence here that the bird is a resident, and not at all migratory, I was not a little surprised to-day to see a large one feeding another about one-third smaller in size. A member of my family had witnessed a similar act a few days ago. It occurred to me that possibly this might be an old bird with its young, which had been reared in some warmer region during the past winter. Migrating here, the young birds were only receiving the care they would seem still to need. It would seem hardly possible that the old bird had been taking care of this one all winter, else we should have seen something of the kind before. It is an unusual thing, I think, for old birds to be seen feeding young ones at this season, when most species are building their nests.—*Charles Aldrich, Webster City, Iowa, May 12, 1881.*

DOES THE CROW BLACKBIRD EAT CRAYFISH?—One of my students, who has during the past summer been making some observations upon the nature of the food of the “crow” blackbird (*Quiscalus purpureus*), brought me to-day the contents of one of their stomachs, and wished to know what kind of seeds they were that were mixed with the remains of insects, &c. Upon examination I found that the so-called “seeds” were gastroliths, or stomach stones of the crayfish. There were twenty-six of these stones

in the stomach of that one bird, with no other traces of crayfish remains. I can hardly believe that the bird had eaten thirteen crayfishes, or if it had, that the gastroliths should be all that remained of them in the stomach. Can it be that the bird finds these objects so plenty about the water's edge that it swallows them to serve as general stones in the "gizzard?" Since Mr. Aldrich has shown (see the October *NATURALIST*) that this bird feeds upon live fish, it may be that it also eats the crayfish, but even that supposition would hardly account for the presence in its stomach of so many of these peculiar bodies, with none of the other parts.—*F. E. L. Beal.*

AVIAN RIDERS.—Dr. Merrill's interesting account of the belief of the Crow Indians that a small bird, probably a grebe, performs its migration on the back of the sandhill crane, was no doubt new to our readers. It appears, however, that a similar belief is widely spread among various tribes of North American Indians. Dr. Merrill's account referred to the Crows, but he mentioned also that the Crees entertained the same belief in reference to the white or whooping crane. Recently, in the London *Nature*, Mr. John Rae gives an account of the supposed passage of certain small birds on the back of the Canada geese, as related by the northern Indians, which he apparently believes in.

It is generally asserted by the Naskegon Cree Indians, who dwell about the south-western part of Hudson's bay, that a small bird, one of the Fringillidæ, performs its northward migration in spring on the back of the Canada goose (*Bernicla canadensis*).

This species reaches Hudson's bay about the last of April, and the Indians state that when the geese are fired at the little birds are seen flying away from them. The Indians in this region devote considerable time each spring—a month or more—wholly to goose shooting, and their method of doing this is to set decoys near a blind and to call down the geese as they are passing over. It is inferred from this that such geese having rested upon the ground or having passed near by it have been deserted by their little passengers.—*Forest and Stream.*

THE MIGRATION OF BIRDS.—In a valuable article on this subject in *Scribner's Magazine* for October, Mr. J. A. Allen concludes: 1st. That the habit of migration resulted from changes of climate occurring at a not very remote geological period. 2d. That every gradation exists between species the most widely roving and those which are strictly sedentary; and that even representatives of the same species may be either migratory or sedentary, according to whether they occupy, as breeding stations, the northern or southern portion of the common habitat. 3d. That failure of food induces a movement towards warmer regions. 4th. That the return of birds to their breeding stations, which are their only true homes, is prompted by the recurrence of the season of procreation and

strong home affection. 5th. That they usually pursue definite routes, and are guided in part by prominent landmarks, or by memory, and in part by "instinct" or inherited experience. 6th. That erratic movements are the result of transportation by storms. 7th. That birds discern approaching meteorological changes.

THE CLAW ON THE INDEX DIGIT OF THE CATHARTIDÆ.—Birds form such an eminently distinct group in the present age—one so thoroughly isolated from any of the other natural divisions, that the discovery of any new factor in their anatomy, belong to what system it may, that tends to bring them nearer, by structural affinities, to one or the other of the great classes in nature, must always be regarded with peculiar interest by comparative anatomists. A prominent example, of this, familiar to all of us, presents itself in the discussions and special attention that the remains of *Archæopteryx macrura* has always received from such of us as are interested in special homologies, and by naturalists generally.

The writer has been recently engaged in collecting together, from various sources, material from which he hopes, at no distant day, to produce a monograph upon the osteology of the Cathartidæ. Not long ago a skeleton of *Catharista atrata* was obtained, through the kindness of Mr. Robert Ridgway, from a friend in Florida—after it had been received at the Smithsonian Institution. Mr. Ridgway and myself were examining it together, discussing in a casual way some of the bird's osteological bearings, and features, when my ornithological friend called my attention to an appendage at the extremity of the index digit—an addition to this vulture's skeleton, that was at once recognized as a delicate and freely articulated *claw*. Our surprise was mutual, and an examination of the many specimens of vulturine birds, skins and skeletons, that the Museum afforded, and which were within our easy reach, was at once inaugurated. The results of this and subsequent studies of the hands of these birds, it is my object to record in the present paper, believing as I do, that this feature has thus far escaped the scrutiny of descriptive ornithologists. Moreover, I cannot recall any representative of our avi-fauna that exhibits any such addition to the ordinary bones of the manus—in fact, the examples of birds in which it exists, are by no means common. We are all well aware that several genera of plovers, found in different localities over the world, can boast of a spur attached to the manus below the carpal joint, usually, I believe, on the metacarpal bone. This is also the case in *Parra jacana* and *Palamedea*, and others, but in these birds, as I have just stated, it is essentially an immovable *spur*, the counterpart of the same appendage as found on the posterior aspect of the tarso-metatarsus in the common barn-yard fowl and game cock—and as in these birds, often used as a weapon of attack during the breeding season.

So we must regard these spurs as nothing more than weapons possessed by a limited number of favored genera, given to them for a definite purpose, as hard as it is for us to conceive why some birds should wear them, to the exclusion of others—but claws, particularly as they occur in the Cathartidæ, have a very different significance,—they may mean a great deal more. They are to all intents and purposes, useless to their owners—and the problem simply presents itself to us, as to how they came by them—when did they first appear, and how? what are they the rudimentary remains of? and much more that may forever be purely conjectural ground for us, but certainly constituting a view of the subject that lies beyond the scope of such an essay as this, to treat or enter into.

The only authority that comes to my mind at present, who describes these affairs in any general way, is Professor Owen, and this writer dismisses the subject in the following manner:

“The index digit in *Struthio* and the medius digit in *Apteryx*, support each their claw. The claw or spur, when present in other birds, *e. g.* Syrian Blackbird (*Merula dactyloptera*), spur-winged goose (*Anser gambensis*), knob-winged dove (*Didunculus*), jacana (*Parra jacana*), mound-bird (*Megapodius*), screamer (*Palamedea*), is developed from the radial side of the metacarpus, or from the index digit. The screamer has two spurs, the homotypes of the metatarsal ones in *Pavo bicalcaratus*. The claw upon the index of *Archeopteryx* was curved and sharp; and the remains of the unique example of this ancient fossil bird make it probable that the hand had a second free unguiculate digit, perhaps the homologue of the pollex. Although the instances of these weapons, and the occasional use of the wings in birds not so armed, *e. g.* the swan, show them in the light of means of attack, the bones of the pectoral limb in birds are modified mainly for volant action.”

At the present writing there are two rather imperfect skeletons of *Pseudogryplus californianus*, and two mounted specimens, the latter being unquestionably “birds of the year,” in the Smithsonian Institution. In the younger, or at any rate the smaller of these last, we find this claw present and very prominent, though it occurs in both birds. It can be immediately brought into view and examined, by simply parting the feathers that overlie the region of the first finger, whereupon it will be found to be a strong curved claw—convex anteriorly, sharp, slightly grooved from above downwards on its posterior aspect, covered by the same kind of horny integument, or thecæ, that shields the bony claws of the feet, and movable. It measures in this case, along the axis of the curved anterior surface, something over a centimeter (about 1.3 centimeters), being grasped about its base by the common integuments of the upper extremity. Its horny sheath being removed, it leaves an osseous claw, such as we find in the

distal or ungual points of the feet; this has a transverse facet at its base, that articulates with a similarly placed surface at the extremity of the index digit, rather towards its outer side. It is supported in addition to the aid the common skin affords, by ligaments attached to the bone above. It is not uncommon to find a slight inequality in size, when the claws of the two sides are compared in the same specimen—this remark holds good for other individuals of the family. No doubt, when we come to examine a larger series of specimens, this appendage will be found to differ in size according to the age, or perhaps in some cases the idiosyncrasy of the individual. In *Sarcorhamphus gryphus*, it was seen to possess all of the characteristics just described as they occur in our Californian Condor, only that in the first it was not found to be nearly so large, nor so much curved. It does not appear to attain any very great size in *Sarcorhamphus papa*, where also it becomes still less curved.

In a specimen of *Catharista atrata* that I have before me, this claw is subcompressed from side to side, sharp behind, rounded anteriorly, slightly curved from before, backwards, and occupies a facet on the anterior third of the extremity of the index digit. In other birds examined of this species, this rule was departed from, in the claw being apparently less curved, and flatter; in this seemed to be its constant condition in *Cathartes aura*.

Turning to the vultures of the Old World, which we are aware have been placed with the Falconidæ, this claw could in no instance be found; neither *Neophron*, nor *Gypogeranus serpentarius* exhibit any such feature, in short, it seems to be confined, as far as the vultures are concerned, to our family of Cathartidæ, and as here developed, constitutes an additional character, referable both to external features and internal structure, for deferential diagnosis, separating these birds from the Old World vultures.—*R. W. Shufeldt, M. D., Washington, D. C.*

THE PAPER NAUTILUS AGAIN IN NEW JERSEY.—I have to report for the third time, the discovery of an Argonauta on the New Jersey coast. It was found in September at Long Branch, the day after President Garfield's death, and near the cottage in which he died. The shell was fresh, its occupant having but recently perished. The two previously reported by me were found in August, 1876, one at Long Branch, containing the animal alive, and the other at Point Pleasant, about fifteen miles south. This, too, was a fresh shell. Thus, beginning with the summer of 1876, we may set down the Argonaut as belonging to the marine fauna of New Jersey; and query: As this beautiful creature is a native of the Tropics—"what's up!" Has the Gulf Stream got a new kink?—*S. Lockwood, Freehold, N. J., Oct. 12, 1881.*

ZOOLOGICAL NOTES.—The type of a new family of fresh-water worms, remotely allied to the Lumbriculidæ and Tubificidæ have

been discovered by G. Eisen in a small rapidly flowing spring among the snowy peaks of the Sierra Nevada in California. The worm is described in a memoir, with two colored plates, in the Transactions of the Royal Society of Sciences in Upsala, for 1881. The worm is named *Eclipidrilus frigidus*, and the family Eclipidrilidæ.—The second part of M. Jules Macleod's contribution to the study of the structure of the ovary of Mammals refers to that of Primates. He has also published in the Bulletin of the Academy of Sciences of Belgium, abstracts of the results of his investigations on the reproductive apparatus of bony fishes, especially the ovary of Hippocampus and of Sygnathus.—It will be remembered that elephantiasis and other diseases allied to leprosy are supposed by Dr. Lewis and others to be contracted in India and China from drinking unfiltered and unboiled water containing the embryos of Filaria, minute thread worms found in the circulation of leprosy patients, which are introduced into man by drinking cold uncooked water, as well as by the mosquito, which serves as an intermediary host. Dr. P. Manson, of Amoy, has published in the Journal of the Queckett Microscopical Club, a notice of a chart recording a series of observations on the blood, temperature and pulse of two Chinese lads, ascertained to be filarious, and which were in the main made by themselves. He concludes, 1st, that the periodicity observed by the Filaria embryos is by no means an exceptional or capricious phenomenon; and 2d, that it is associated with the advent of night, not depending in any way on the sleeping state. Dr. Manson concludes as follows: "If the examination of filarious blood is made during the night, it is almost as easy to find the parasite as it is to find a white blood corpuscle. Seeing this, and the frequency with which the presence of the parasite is associated with lymphatic fever, elephantoid and other disabling affections, I have sometimes thought it would be worth the trouble for the government in India to institute the systematic examination of the blood of native recruits by their medical officers."—In the same periodical Mr. J. G. Waller argues that the so-called boring sponge (*Cliona*) does not make the burrows in which it is found growing, but that an Annelid is the factor. To this Mr. Priest demurs, who claims what is generally accepted by zoölogists, that the *Cliona* does the work. He thinks the protoplasm of the sponge acts on the surrounding parts, and eats its way into them, as the protoplasm of necrosis eats into bone.

ENTOMOLOGY.¹

THE PERMANENT SUBSECTION OF ENTOMOLOGY AT THE RECENT MEETING OF THE A. A. S.—The Entomological Club of the A. A. S., which has had several most interesting and instructive meetings, was made a permanent subsection of the Associa-

¹ This department is edited by PROF. C. V. RILEY, Washington, D. C., to whom communications, books for notice, etc., should be sent.